

Response to Comments on Draft Hawaii 2020 Integrated Report (July 2020)

Comments from West Maui Ridge to Reef Initiative (Dana Reed and Tova Callender)

Comment 1: Better notification of draft report availability needed: How is notification of the release of the draft Integrated Report (IR) for review disseminated? Despite working closely with various DOH branches, we only came upon it by chance within the review period, and found that to be true for other partners working on improving coastal waters. Additionally, with the IR draft not posted in the normal part of the DOH website where past reports are published, it is challenging to locate, even if one knows what to look for.

Response 1: The draft IR was public noticed in accordance with requirements of the Hawaii Revised Statutes, Section 1-28.5, which requires public notice in a daily or weekly publication equivalent to a statewide circulation. A printed notice was run in the Honolulu Star-Advertiser, The Garden Isle, Hawaii Tribune-Herald, West Hawaii Today and The Maui News on June 12, 2020, and MidWeek on June 17, 2020. Additionally, notification was posted on the DOH Clean Water Branch website under the Public Notice and Updates page at <https://health.hawaii.gov/cwb/clean-water-branch-home-page/public-notices-and-updates/>. The DOH Clean Water Branch had the IR public comment period notice as the first notice and at the very top of the website page. The final 2020 integrated report will be posted on the Integrated Report and Total Maximum Daily Loads website page after EPA provides approval of the State's updated impaired waters list at <https://health.hawaii.gov/cwb/clean-water-branch-home-page/integrated-report-and-total-maximum-daily-loads/>.

Comment 2: Include state standards in report: We did not see inclusion of the state standard values in the report, making it difficult to interpret what attainment means for each parameter. Including in the document rather than referring to a statute located elsewhere would be helpful.

Response 2: The water quality standards applicable for all the different water body types are complex and would require publishing most of the water quality standards found at Hawaii Administrative Rules, Title 11, Chapter 54 (or HAR 11-54). To keep it simple and more understandable to the public, summary charts of DOH's assessment of the data is provided in the draft IR.

Comment 3: Omitted sites not explained: Several sites with sufficient data collected and submitted by Hui O Ka Wai Ola were not included in the report, and no explanation was given for the omission. For example, 'Āhihi Kīna'u has two sites with sufficient data, and no listing. In terms of site count, DOH has 18 tier one sites, and in addition, Hui O Ka Wai Ola submitted data for 29 sites with more than 30 samples in the specified timeframe of the report, and 10 sites with exactly 29 samples (some of which were included in the report). Why were the total sites assessed only 44?

Response 3: Data is combined based on assessment units and may have overlap between sample stations. Overlapping sites were assessed together in the same assessment unit. A breakdown of how Hui sites were grouped into water bodies is provided in the table below. After reexamination of the submitted data, three Hui sites ['Āhihi Kīna'u North (MAN), 'Āhihi Kīna'u South (MAS) and Kealia Pond (NKP)] were added to the assessment. 'Āhihi Kīna'u North and South were assessed under 'Āhihi Kīna'u Natural Area Reserve (HIW00084). The assessment for 'Āhihi Kīna'u Natural Area Reserve was moved

from Table 14 to Table 13 of Appendix B and can be found on page Appendix B-38. Kealia Pond was added into Maalaea Beach (HI058731) and can be found on page Appendix B-40.

Water Body Groupings for Assessment

Water Body (ID)	Site Name (ID) Within Water Body
'Āhihi Kīna'u Natural Area Reserve (HIW00084)	'Āhihi Kīna'u North (MAN) 'Āhihi Kīna'u South (MAS)
Fleming Beach North (HI253548)	DT Beach (Fleming N) (RFN)
Hanaka'o'o Beach Co. Park (HI797917)	Canoe Beach (RCB)
Honolua Bay (HI280286)	Honolua (RHL)
Kaanapali (Kahekili Beach) (HI643627)	Airport Beach (RAB)
Kahana (Mahinahina Condo Shoreline) (HI160433)	Ka'opala (RKO)
Kalama Beach Co. Park (Beach) (HIW00023)	Kalama Park (KKP)
Kalama Beach Co. Park (Cove Park) (HI705118)	Cove Park (KCP)
Kalepolepo Beach (HI647373)	Kalepolepo North (NKN)
Kalepolepo (Waimahaihai) (HIW00141)	Kihei South (Lipoa) (KKS)
Kamaole Beach 1 (HI761092)	Kamaole I (KKO)
Kamaloe Beach 3 (HI496115)	Kamaole III (KKT)
Kapalua (Fleming's) Beach (HI391006)	Kapalua Bay (Fleming S) (RFS)
Kapoli Beach Co. Park (HI599968)	Maalaea Harbor (NMH)
Keawekapu Beach (HI607763)	Kilohana Drive (WKD) Keawekapu Beach (WKB)
Kihei Coast Mokulele (HIW00042)	Sugar Beach (NSB) Kihei Canoe Beach (NKC)
Lahaina Beach (HI407363)	505 Front Street (PFF) Lindsay Hale (PLH) Lahaina Town (PLT) Makila Point (PPU)
Launiupoko St. Wayside Park (HI558359)	Launiupoko (OLP)
Maalaea Beach (HI058731)	Maalaea Condos (NMC) Haycraft Park (NHP) Kealia Pond (NKP)
Mai Poina Oe Iau Beach Co. Park (HIW00025)	Mai Poina 'Oe Iau (NMP)
Makena Landing Beach (HI245556)	Makena Landing (MML)
Malu'aka Beach (HI847607)	Maluaka Beach (MMB)
Mokule'ia Beach (HI977299)	Mokuleia (RMO)
Napili Bay (HI764060)	Napili (RNS)
Olowalu (Teen Challenge) (HI491359)	Mile Marker 14 (OMM)
Olowalu Shorefront (HIW00021)	Peter Martin Hale (OPM) Olowalu Shorefront (OSF) Camp Olowalu (OCO)

Oneloa Bay Beach (HI740710)	Oneloa (RON)
Oneloa Beach (Big Beach) (Makena Beach Station) (HI279887)	Makena Beach Shoreline (MBS)
Oneuli Beach (HI756040)	Oneuli (MON)
Palauea Beach Park (HI997014)	Palauea (WPL)
Papalaua (HI462219)	Papalaua (OPB)
Papalaua Pali (HIW00216)	Papalaua Pali (OPP)
Poolenalena (HI684864)	Poolenalena (Chang's Beach) (WPO)
Ukumehame Beach Co. Park (HI814309)	Ukumehame Beach (OUB)
Ulua Beach Park (HI588333)	Ulua Beach (WUL)
Wahikuli State Wayside Park (HI169380)	Wahikuli (RWA)
Wailea Beach Park (HI278988)	Wailea Beach (WWA)
Waipuilani (HI284036)	Waipuilani Park (KWP)
West Maui Coast-Kahana Village (HIW00076)	Kahana Village (RKV)
West Maui Coast-S-Turns (Pohaku) (HIW00047)	Pohaku (RPO)
West Maui-Papakea (HIW00079)	Kaanapali Shores (RKS)

Comment 4: Omitted data not explained: In some cases, select parameters were annotated as having insufficient data when from what can be seen elsewhere in online records, the data had been collected (by multiple parties in some instances). One important example is Cove Park, a nutrient hotspot and point of interest to the community, where enterococcus, TP and ammonium were omitted from the assessment.

Response 4: DOH issued an open call for data between June 2019 and November 2019 requesting submission of data collected within the assessment period of November 2017–October 2019. If there were at least 30 data points over the assessment period and the sample collection was done following an approved Quality Assurance Project Plan (QAPP), DOH was able to use the data for the water body assessment. Data is combined based on assessment units and may have overlap between sample stations. Data from overlapping sites are assessed together. In the example of Cove Park, data was assessed under Kalama Beach Co. Park (Cove Park) in the Wailea watershed. The assessment can be found on page Appendix B-40.

Comment 5: Inconsistent inclusion of orthophosphate as a parameter: Why is orthophosphate used in Hawaii Island as a parameter for assessment and not on Maui when this data has been collected? Furthermore, what is the state standard?

Response 5: Orthophosphate is a site-specific parameter only applicable to the Kona coast of Hawaii Island. There is no water quality standard for orthophosphate for other waters.

Comment 6: Watershed and site discrepancies: Some sites are listed in watershed assessment units in which they are not located. What is the logic in this method of assignment? For example, in West Maui, Oneloa is shown in Honokahua watershed assessment unit, but is physically located in Kahana watershed.

Response 6: Sites were assigned based on currently available GPS coordinates and GIS mapping. Current watershed assessment units are based on the watershed layer created by the Commission on

Water Resource Management under the Department of Land and Natural Resources. Based on current GPS data, the sample sites for Oneloa plot on Oneloa Bay Beach in Honokahua watershed and is thus assessed in that watershed.

Comment 7: Past suggestions about data clarity not reflected: A comprehensive list of suggestions for improving the IR as an important tool for communicating about the quality of our waters was provided in 2016. In lieu of recrafting, these comments are included as an attachment as they remain largely unaddressed.

Response 7: Comments submitted for the 2016 IR and resubmitted are addressed below (See Comments and Responses 9 through 15).

Comment 8: Dropped TMDL assessment for West Maui without explanation: In 2016, West Maui was flagged as a priority area for developing a TMDL assessment to assist in addressing the non-point source pollution concerns in the region. This was not developed, is no longer listed as a priority, the reasoning for which has not been explained.

Response 8: DOH revised its priority ranking for potential TMDL development for the entire list to be more realistic about what TMDL activities will really occur within the next two years or in the period before the next listing cycle (2022). Keeping too many water bodies as high priority did not seem helpful as a planning tool for the DOH or for the public. DOH will reassess its priorities in subsequent Integrated Reports based on progress being made on previously listed priority areas for TMDL development, actual changes to water quality based on newer data, DOH resources available for TMDL activities, restoration activities in watersheds, and other circumstances that warrant priority changes.

Comment 9 (2016 IR comment, resubmitted): Because our organizations are based on Maui, we were pleased to see that three important watersheds in west Maui were identified for priority action by the Department of Health in this report. The Kahana, Honokahua, and Honolua watersheds were all prioritized for restoration efforts due to sediment and nutrient pollution. What does this specifically mean for these watersheds? Will there be funding available for restoration work up in the watersheds? These three watersheds were also given high priority for the establishment of TMDLs. Can we expect to see TMDLs for these watersheds in the next 5 years?

Response 9: DOH changed its priority ranking of watersheds for TMDL actions in the draft 2020 IR. DOH's revised priorities are based on a more realistic consideration of what TMDL development activities can be accomplished in the next two years or within the time before the next listing cycle or 2022.

Comment 10 (2016 IR comment, resubmitted): There is concern about the long timeframe between when data is collected and when the integrated report is issued. The 2016 IR is using data collected between November 1, 2013 and October 31, 2015 and the final report will not be issued until later in 2017. It is hard to know from this type of reporting when a water quality problem might have begun or even when a water quality issue was resolved. Furthermore, by the time the report comes out the status of any given water body may be significantly different. Interim online status reports would be very useful for tracking changes in a more real-time manner. This type of interim status would also be extremely useful in tracking down new or intermittent pollution sources.

Response 10: It would be ideal to have a real-time data reporting and tracking system. However, for the Integrated Report and especially for the list of impaired waters needing a TMDL (Category 5 waters), DOH is identifying areas with chronic water quality problems. Given limited time and resources available for TMDL development, DOH is interested in placing the most focus and resources in finding those chronic problem areas where a TMDL would have the greatest utility and value in addressing the water quality problems. Many of the highly impaired water bodies do not significantly change water quality status rapidly in real time.

Comment 11 (2016 IR comment, resubmitted): The 2016 IR mentions that work is being done to develop GIS mappings of impaired sites that will be available to the public via the CWB website. These visualization tools will be very helpful and we look forward to seeing this information added to the website. Will these mappings be updated regularly to allow impairment tracking over time?

Response 11: DOH agrees that GIS mapping tools would be very helpful and is continuing to work on developing such visual tools. DOH will make the tools available to the public as soon as they are available.

Comment 12 (2016 IR comment, resubmitted): The implementation of using watershed-based decision units in listing and delisting decisions has merit for some parameters such as turbidity or total suspended solids, but may make it more difficult to pinpoint other sources of pollutants that come from submarine ground discharge. From experience, we have seen significant differences in nutrient parameters when testing two places within the same water body area. Therefore, we recommend that the data for individual sites (nested assessment units) continue to be included in the integrated reports going forward.

Response 12: Thank you for the suggestion. DOH will consider various ways to review the data and try to make assessments at appropriate watershed scales.

Comment 13 (2016 IR comment, resubmitted): One other question pertaining to watershed decision units - what is the justification for modifying a watershed boundary? In the integrated report, there was mention of possible modifications of watershed boundaries in certain cases, and in the draft 2016 report, Oneloa Bay (Kapalua region on Maui) is identified as belonging to the Honokahua watershed. In the state watershed boundary GIS layer, Oneloa Bay (Kapalua, Maui) belongs to the Kahana watershed. This is just a single example, but the larger question remains, what justification is there for modifying any of the current state watershed boundaries?

Response 13: Sites were assigned based on currently available GPS coordinates and GIS mapping. Current watershed assessment units are based on the watershed layer created by the Commission on Water Resource Management under the Department of Land and Natural Resources. Based on current GPS data, the sample sites for Oneloa plot on Oneloa Bay Beach in Honokahua watershed and is thus assessed in that watershed. DOH did not modify watershed boundaries from those delineated by the Commission on Water Resource Management.

Comment 14 (2016 IR comment, resubmitted): In the results section of the report, percentages are used to compare the water quality between different watersheds and different islands. While the report states that these percentages are based only on assessed watersheds or sites, a casual reader of the report can take away the wrong message about water quality for a particular island or watershed.

For example, in Table 3 there is no significant information to be gained by stating that Maui only achieves 50% attainment for chlorophyll *a* while all the other islands have 100% attainment. For every island there were only one or two watersheds that were assessed for chlorophyll *a*. With such small sample sizes there is no point in trying to make comparisons because these comparisons are relatively meaningless.

Response 14: DOH agrees that reporting percent differences between IR cycles is not very meaningful with very small sample sizes. Therefore, DOH revised most of the tables and eliminated the percent change columns.

Comment 15: (2016 IR comment, resubmitted): It is impossible to determine to what degree a particular water body is impaired given the information in this report. Therefore, two water bodies with identical attainment scores (assume all parameters are not attaining and marked N) could be markedly different in the amount of impairment for one or more of the parameters. It would be useful to see more quantification of the water quality parameters so that there is a better sense of the actual impairment based on state standards for a particular water body. This quantification could be done in terms of ranges or in actual numbers. The most useful metric is a score where the given water quality parameter is normalized to the state standard. The normalized metric then allows the reader of the report to determine relative impairment. In a normalized parameter, if the normalized parameter metric is less than 1.0, the water body has attained state standards. If the normalized parameter metric is greater than 1.0, the water body is not in attainment. A numeric metric would provide information on how far out of attainment a particular parameter happens to be. A useful modification of this concept might use color to show a range of attainment or non-attainment, with green indicating attainment and various shades of yellow, orange, and red indicating increasing degrees of non-attainment. This additional information would be very useful to watershed managers and make the report easier for the interested, non-professional reader to understand.

Response 15: Thank you for the suggestion. DOH started to incorporate a very simple impairment gradation distinction by using the N1 and N1c code in the assessment table. The N1 code means that the water quality standard is not attained by at least two times the numeric criteria value. The N1c code means the same as N1 but based on combining data sources.

Comments from Loy Kuo

Comment 16: Good job and mahalo to and the DOH staff preparing this report. It is fundamentally essential to continue, and continually improve on, the water quality monitoring and assessment efforts.

Response 16: Thank you for the comment. DOH will continue to update Hawaii's water quality assessment of state waters biennially.

Comment 17: Exact water body boundary descriptions. Though many of the listed water body names are familiar and recognizable to me and probably most other readers, it is still difficult to know the exact physical boundary and where one transitions to the adjacent water body. For examples, I tried to look up data for the Aala Canal along River St but could not find it by that name. Similar with the ponds and the mauka drainage ditch within City's Ala Moana Regional Park. Do

they get lumped in with or left separate from data fronting the beach? The report's recommendation to implement computer geographical information system (GIS) mapping is a very good one. I am in support of accelerating its full implementation and eventual free public access.

Response 17: DOH is only able to make assessments for water bodies that have sufficient amounts of and recent quality assured data. If the water body of interest is not listed or found in the recent draft Integrated Report, it may be due to insufficient data available to make an assessment of impairment for that water body. Also, assessments are made at a watershed scale so data is often grouped together for a stream and its tributaries. The Aala Canal is within the Nuuanu watershed assessment unit and the water quality assessment for that assessment unit is found in Appendix B, Table 4, pp. B-13 and B-14 and in Appendix C, Table 2, p. C-6. The ponds within Ala Moana Regional Park have not been separately assessed. DOH realizes that it would be easier to see where and which water bodies are assessed so we are continuing to geolocate and map the water bodies and their water quality assessments so that future assessments would be easier for the public to visualize and understand.

Comment 18: Trash as a monitored data parameter and data collection monitoring methodology. I am glad to spot "trash" as a water quality measure noted as being monitored for a few selective but not all of the listed water bodies. I could not find in the draft report how it is measured. Is the report talking about just the trash visible on the water surface or even ones submerged on the bottom? A yes or no presence on the day of monitoring? Or a running cumulative total in weight or volume over a monitoring period?

Response 18: All the listings for trash impairment were done in past 303(d) listing cycles and have been carried over to the present. There does not appear to be any historical record of a consistent approach or methodology to make such listings. A more defined methodology should first be developed before any more future listings are done for trash impairment, and DOH will be working on that in the near future. Also, EPA recently determined that Kamilo Beach and Tern Island should be listed for trash impairment, so those impairments may be added to the list.

Comment 19: Data quantification of known high risk pollutant facilities and features traversing or bordering a water body. Though the collected water quality parameters theoretically should correlate and reflect their impact, practical monitoring scope and methodology often cannot reliably capture the high impact severity and short temporal events often related to these facilities and land features. Examples are, but not limited to:

- A. Sanitary sewer collection and forced main transmission crossings. They are known to deteriorate and occasionally overflow out of the manholes. Streams like Kalihi and Nuuanu have them crossing underneath the stream beds multiple times.
- B. Illegal human encampments. To me, this is very concerning pollution source not only solid trash waste but also bodily urination and defecation. Effective government prevention and elimination go beyond just the DOH and dealing with those who are especially not abiding by society norms.
- C. Fuel transmission lines and known soil contaminated sites. Fuel odor is often noticeable when passing the huge fuel tanks near the airport, Iwilei, and Sand Island areas. They are situated right

next to the water, including the drainage canal system within the airport. How sure are we to know that the stored fuel is not slowly leaking out through the bottom soil and entering into the water? How long more will the USS Arizona leak oil? Do the US military have fuel transmission lines that are not de-classified for public knowledge?

D. Cesspools, underground injection wells, individual wastewater system leach fields, and public beach showerstalls.

E. Garbage transfer stations, salvage yards, and landfill leachate collection tanks.

Response 19: The examples identified by the commenter (i.e., overflowing sanitary sewer collection systems, human encampments, leaky fuel lines, failing cesspools and other wastewater systems, garbage transfer stations, etc.) are good examples of problem pollution sources that can impact the water quality of nearby water bodies. The DOH is always working towards improving its monitoring efforts by adding more sample sites, adding more indicators, and increasing the frequency of monitoring to assess the cumulative impact to Hawaii's waters from all pollution sources, including the example sources identified by the commenter. However, improvements to the monitoring program are dependent on and limited by adequate staffing and funding.

Comment 20: Crowd-sourced data collection implementation. Allowing the public more convenient access to problem report and suggest improvement ideas through a GIS-based online website. This way the public can comment throughout the year and not limited a commenting period just few weeks every two years.

Response 20: Although the data solicitation for the Integrated Report is formally done biennially, the public has other opportunities to collect data and provide access to others independent of the DOH's data solicitation cycle. However, for DOH to be able to use public data, the data should meet the data acceptance criteria guidelines established by DOH. When DOH can verify that the data collected by outside entities meet the data acceptance criteria, DOH can often automatically go to that source (e.g., USGS data) for data to use in the water quality assessment process.

Comments from Adrian Lee

Comment 21: Thank you and the department for your diligent work at monitoring the health and quality of our water. I am especially heartened by the increase monitoring from 108 to 150 water bodies for a 27% increase. I firmly believe with diligent monitoring, we can obtain the firm data to better understand the status of our water system and create a plan to manage it appropriately.

Response 21: Thank you for your comments. The DOH will continue to try to expand and improve its surface water monitoring efforts.

Comment 22: I do have a suggestion if you have the resources - to add a random monitoring system, too. You could randomly select 5% of our waterways not already being monitored. Your department would, over the course of 2 years, sample and test these random samples. Your report would then include a section of the random testing and its results. You won't need to disclose the locations or may use a code to identify them in the report. You can keep the key for internal use so that you may then follow up as appropriate.

Response 22: The DOH has incorporated some random or probabilistic monitoring into its surface water monitoring program. The probabilistic design has been used most recently for monitoring Maunalua Bay (under DOH contract with University of Hawaii and The Nature Conservancy). The *Final Report for Maunalua Bay Water Quality Monitoring* was completed in March, 2020. The DOH has also participated in a randomized design monitoring effort in collaboration with the U.S. Environmental Protection Agency as part of the national coastal survey in 2010. The DOH is very much interested in incorporating more probabilistic monitoring efforts and has recently revised its *Comprehensive Monitoring Strategy for the Surface Waters of Hawaii* in April, 2020 which specifically references the use of more probabilistic monitoring design to assess more of Hawaii's water bodies.